

**Remarks**

Applicant respectfully requests reconsideration of this application, as amended, and consideration of the following remarks.

**Amendments to the Claims**

Applicants have amended the claims to more particularly point out what Applicants regard as the invention. Claims 44-68 remain in this application. Claim 44 has been amended. No new matter has been added as a result of the amendment. Support for the amendment of claim 44 can be found in paragraph [0036] p. 13 lines 22-24, and paragraph [0053] p. 26 lines 10-12.

**Rejections**

*Rejections under 35 U.S.C. §102(e)*

**Claims 44-68**

Claims 44-68 were rejected under 35 U.S.C. §102(e) as being anticipated by Nikonov et al., US 6,859,587 (Nikonov). Applicants respectfully traverse the rejection because Nikonov does not teach each and every element of the invention as claimed in claim 44 as amended and claims 45-68.

With regard to claim 44 as amended, Nikonov does not teach **optical grating coupler** as recited in the claim. Examiner points out to FIG. 3 of Nikonov at the connection between optical probes 210 and 220 and the waveguides as being a structure falling under the language of claim 44. Applicants respectfully submit that one of ordinary skill in the art at the time of

the invention would recognize that the coupling connection disclosed by Nikonov, however, being **connected directly** between the side polished optical fiber 130 and the waveguide PLC 105 without a separate coupling device as illustrated in detail in FIG. 2, cannot be considered an **optical grating coupler** within the meaning of claim 44, wherein the fiber probe of the present invention is **not connected directly** to the waveguide but coupled optically via the on-chip **optical grating coupler** as illustrated as coupler 240 in FIG. 3A of the application. Furthermore, Nikonov does not teach **optical alignment structure fabricated on the wafer surface** which is recited in the claim 44 as amended. Accordingly, Applicants submit that the invention as claimed in claim 44 as amended is not anticipated by Nikonov under 35 U.S.C. §102(e)

Claims 45-68 depend from claim 44, and are therefore not anticipated by Nikonov at least for the same reasons as claim 44. Nevertheless, a few additional differentiating features are pointed out below.

With regard to claim 45-49, applicants respectfully submit that one of ordinary skill in the art at the time of the invention would recognize that Nikonov does not teach optically retro-reflective, Littrow grating, has shaped as a dot.

With regard to claim 50, 51, 64, 65, applicants respectfully submit that one of ordinary skill in the art at the time of the invention would recognize that Nikonov only teaches optical circuits in col. 1 lines 10-20 and that Nikonov does not teach integrated **electronic** circuit on the wafer within the meaning of claims 50 and 64 of the present invention.

With regard to claim 52, it is not clear what Examiner is referring to by (20, 22).

With regard to claim 53, applicants respectfully submit that one of ordinary skill in the art at the time of the invention would recognize that Nikonov does not teach a grating coupler in fig 1.

With regard to claim 54, it is not clear what Examiner is referring to by (20, 22).

With regard to claim 66-68, Examiner points to alignment stages 230 and 232 of Nikonov as being equivalent to an optical alignment structure. Applicants respectfully submit that this interpretation of the invention and Nikonov is clearly erroneous. Use of the adjective "alignment" is the only shared attribute, but the two elements otherwise have very different structures and functions. The alignment stages 230 and 232 of Nikonov are mechanical motion stages and are located outside the wafer (see FIG. 3 and column 2 lines 29-36 of Nikonov). They are apparently intended to work to optimize the signal to be applied and measured for testing the substrate, although it is unclear how the alignment stages would be aligned with substrate waveguides in the first place. On the other hand, an alignment structure as recited in claim 66-68 is fabricated on the wafer. The purpose of the alignment structure is to be used by an external device to guide the positioning of the external device with respect to the substrate. Accordingly, Nikonov does not teach an alignment structure fabricated on the wafer.

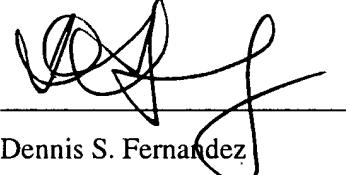
Accordingly, Applicants submit that the invention as claimed in claim 44 as amended and claims 45-68 are not anticipated by Nikonov under 35 U.S.C. §102(e) and respectfully request the withdrawal of the rejection of the claims.

**Conclusion**

In view of the foregoing, Applicant believes that all of the claims 44-68 are now in condition for allowance and respectfully requests the Examiner to issue a timely Notice of Allowance. If for any reason, the Examiner believes any of the claims are not in condition for allowance, he is encouraged to phone the undersigned at (650) 325-4999 so that any remaining issues may be resolved.

The above changes are believed not to add new matter, as support is found in the specification.

Respectfully submitted,



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Date: 2/6/06

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